HGP

MODEL PAPER -1 – MATHEMATICS - 10th standard

HGP

Time: 1Hour

Marks :40

Four alternatives are given for each of the incomplete statement or questions. Choose the correct answer.

1) The lines representing $2x+3y-9=0$ & $4x+6y-18=0$ are

   A) Intersecting lines B) Perpendicular lines C) Parallel lines D) Coincident lines

2) 10th term of an A.P. 5,9,13,..... is

   A) 36 B) 31 C) 41 D) 21

3) Roots of the equation $ax^2+bx+c=0$ are

   A) $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$ B) $x=\frac{b\pm\sqrt{b^2-4ac}}{2a}$ C) $x=\frac{-b\pm\sqrt{b^2+4c}}{2a}$ D) $x=\frac{-b-\sqrt{b^2-4ac}}{2}$

4) Value of $\sin 30^0+\cos 60^0$ is

   A) $\frac{1}{2}$ B) $\frac{3}{2}$ C) $\frac{1}{4}$ D) 1

5) Distance between the origin and a point (3,4) is

   A) 5 B) 6 C) -5 D) -4

6) A line passing through 2 points on the circumference of a circle is

   A) Chord B) Secant C) Tangent D) Radius

7) Total Surface Area of a hemisphere is

   A) πr^2 B) $4\pi r^2$ C) $\frac{4}{3}\pi r^2$ D) $3\pi r^2$

8) If area of the circular base is 154 cm^2, height = 10cm , then the volume of the cylinder is

   A) 15.40 cm^3 B)15400 cm^3 C) 1.540 cm^3 D) 1540cm^3

9) If $a_1x+b_1y+c_1=0$ and $a_2x+b_2y+c_2=0$ lines are inconsistent lines, then the ratio of their coefficients is

   A] $\frac{a_1}{a_2}\neq\frac{b_1}{b_2}$ B] $\frac{a_1}{a_2}=\frac{b_1}{b_2}\neq\frac{c_1}{c_2}$ C] $\frac{a_1}{a_2}=\frac{b_1}{b_2}=\frac{c_1}{c_2}$ D] $\frac{a_1}{a_2}=\frac{b_1}{b_2}$

10) Sum of first 10 natural numbers is

   A) 55 B) 50 C)40 D) 10

11) If a quadratic equation has two equal roots, then the discriminant is

   A) $b^2-4ac<0$ B) $b^2-4ac>0$ C) $b^2-4ac=0$ D) $b^2-4ac\geq 0$

12) Value of $\sin^2\theta+\cos^2\theta$ is

   A) 0 B) 1 C) 2 D) 3

13) The coordinates of a point P(x,y) which divides the line segment joining the points $A(x_1,y_1)$ and $B(x_2,y_2)$ in the ratio $m_1:m_2$ is

   A] $\left(\frac{m_1x_2+m_2x_1}{m_1+m_2},\frac{m_1y_2+m_2y_1}{m_1+m_2}\right)$ B] $\left(\frac{m_1x_2-m_2x_1}{m_1+m_2},\frac{m_1y_2-m_2y_1}{m_1+m_2}\right)$

   C] $\left(\frac{m_1x_2+m_2x_1}{m_1-m_2},\frac{m_1y_2+m_2y_1}{m_1-m_2}\right)$ D] $\left(\frac{m_1x_1+m_2x_2}{m_1+m_2},\frac{m_2y_2+m_2y_2}{m_1+m_2}\right)$

PRAKASH HG, KPS, N.R.PURA

LIVEWORKSHEETS

14) Tangents drawn at the ends of a diameter are mutually

A) Perpendicular B) Parallel C) Intersecting D) Coinciding

15) Curved surface area of Cone is

A) πrh B) $4\pi r(r+l)$ C) πrl D) $\pi r^2 l$

16) Corresponding sides of two similar triangles are in the ratio 1: 4. Areas of these triangles are in the ratio

A) 1:2 B) 1:16 C) 1:4 D) 16:1

17) If 4x+py+8=0 and 4x+4y+2=0 , represent parallel lines , the value of p is

A) 1 b) 2 C) 4 d) 8

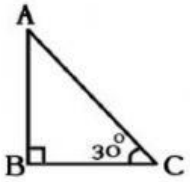
18) The discriminant of a quadratic equation $x^2 - 5x + 3 = 0$ is

A) 25 B) 20 C) 13 D) -13

19) Value of $\frac{\sin 28}{\cos 62}$ is

A) 0 B) 1 C) 2 D) 28

20) In ΔABC , $AB \perp BC$, $\angle ACB = 30^0$, $AB = 15\sqrt{3}m$, value of BC is



A) $15\sqrt{3}$ m B) 10m C) 45m D) 50m

21) Midpoint of the line joining the points (6,2) and (4,4) is

A) (5,2) B) (3,5) C) (2,5) D) (5,3)

22) If mean and median are 3 and 4 respectively , then the mode is

A) 12 B) 6 C) 4 D) 3

23) In a right triangle square of the _____ is equal to the sum of the squares of other two sides.

A) Perpendicular B) sum C) Hypotenuse D) Opposite

24) Formula to find the curved surface area of a Cylinder is

A) πrh B) $4\pi r(r+l)$ C) $2\pi r(r+h)$ D) $2\pi rh$

25) 4 pens and 5 pencils together cost Rs.25. Represent this in the form of linear equation in two variables.

A) $4x + 5y = 25$ B) $x + y = 25$ C) $x-y = 25$ D) $4x - 5y = 25$

26) Roots of $x^2 - 25 = 0$ are

A) 25 and -25 B) 5 and 0 C) -5 and 0 D) 5 and -5

LIVEWORKSHEETS

HGP HGP

27) The value of $\sin 90^0 + \tan 45^0$.

A) 0 B) 1 C) 2 D) 3

28) If $\sec\theta = \frac{1}{\sqrt{5}}$, then $\cos\theta$ is

A) 0 B) 1 C) 5 D) $\sqrt{5}$

29) The distance of the co-ordinate P(3,4) from the x-axis is

A) 3 B) 4 C) 5 D) 1

30) Median of the scores 15,17,19,21,23,25 is

A) 19 B) 20 C)21 D) 6

31) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, then the other two sides are divided in the

A) same point B) same ratio C) same distance D) same length

32) If the volume of a Cylinder is $300cm^3$, then volume of the cone of same base and height is

A) $300cm^3$ B) $200cm^3$ C) $100cm^3$ D) $50cm^3$

33) If $a_n = 3n - 2$, then the value of a_4 is,

A) 10 B) 12 C) 8 D) 6

34) Which one of the following are similar figures?

A) Rectangles B) Rhombuses C) Trapeziums D) Circles

35) Maximum number of tangents that can be drawn to a circle from an external point is

A) Infinite B) 1 C) 2 D) 0

36) In a right triangle ABC, if $\angle B = 90^0$, AB =5cm, BC =12cm, the length of AC is

A) 10cm B) 12cm C) 13cm D) 17cm

37) Angle formed by the line of sight with the horizontal when the point being viewed is above the horizontal level is

A) angle of elevation B) angle of depression C) equal angle D) Right angle

38) Mean of 5,6,7,8,9,10 ,11 is

A) 5 B) 8 C) 11 D) 45

39) We plot lower limits on the x-axis and the corresponding cumulative frequencies on the y axis in

A) Histogram B) Pie chart C) Less than Ogive D) More than Ogive

40) If a Sphere is melted and recast in to the shape of a cylinder, the thing which remains same is,

A) Length B) Radius C) Area D) Volume

LIVEWORKSHEETS